Amendments to the Claims

The following is a listing of all the claims submitted in this application including the present status of each. Any claims canceled or withdrawn in this application are done so without prejudice or disclaimer of any subject matter. Applicants reserve the right to pursue any canceled claims in continuing or divisional applications. By the present paper, claims 25, 26, 36-37, 40-43 and 50 have been amended and claim 51 has been canceled. New claim 52 has been added.

Listing of Claims.

1-24(Canceled).

25(currently amended). A method of facilitating the crystallization of a macromolecule comprising ~~the step of~~ adding a mesoporous glass as nucleant to a crystallization sample wherein the mesoporous glass comprises pores having diameters between 4nm and 100nm and has a surface area of at least $50m^2/g$.

26(currently amended). A method of facilitating the crystallization of a macromolecule comprising ~~the step of~~:

(a) adding to a crystallization sample a mesoporous glass nucleant of a composition selected from the group consisting of SiO_2, $CaO-P_2O_5-SiO_2$ and $Na_2O-CaO-P_2O_5-SiO_2$ or combinations thereof;

(b) wherein each of the Ca, P, Si or Na atoms within the compositions may be substituted with a suitable atom

chosen from the group consisting of B, Al, Ti, Mg, and K; and

(c) wherein, optionally, the composition may also include elements having an atomic number over 20 to enhance X-ray diffraction contrast.

27(previously presented). A method as in claim 25 wherein a mesoporous glass is of a composition selected from the group consisting of SiO_2, $CaO-P_2O_5-SiO_2$ and $Na_2O-CaO-P_2O_5-SiO_2$ or combinations thereof.

28(previously presented). A method as in claim 26 wherein a mesoporous glass is of a composition selected from the group consisting of SiO_2, $CaO-P_2O_5-SiO_2$ and $Na_2O-CaO-P_2O_5-SiO_2$ or combinations thereof.

29(previously presented). A method as in claim 26 wherein a mesoporous glass comprises pores having diameters between 2nm and 200nm.

30(previously presented). A method as in claim 27 wherein a mesoporous glass comprises pores having diameters between 2nm and 200nm.

31(previously presented). A method as in claim 30 wherein the diameter of the pores has a standard deviation of at least 10nm.

32(previously presented). A method as in claim 25 wherein a mesoporous glass has interconnected pores that intersect with the surface of the glass.

33(previously presented). A method as in claim 26 wherein a

mesoporous glass has interconnected pores that intersect with the surface of the glass.

34(previously presented). A method as in claim 25 wherein crystallization of the macromolecule is induced at a lower critical level of super saturation than that obtained where the mesoporous glass is not added to the sample.

35(previously presented). A method as in claim 27 wherein crystallization of the macromolecule is induced at a lower critical level of super saturation than that obtained where the mesoporous glass is not added to the sample.

36(currently amended). A method as in claim 25 further comprising ~~the step of~~ preparing said mesoporous glass for use as a nucleant in crystallization by fracturing said material into pieces of sub-millimeter dimensions.

37(currently amended). A method as in claim 26 further comprising ~~the step of~~ preparing said mesoporous glass for use as a nucleant in crystallization by fracturing said material into pieces of sub-millimeter dimensions.

38(previously presented). A method as in claim 36 wherein the pieces are no more than 200 micron in any dimension.

39(previously presented). A method as in claim 37 wherein the pieces are no more than 200 micron in any dimension.

40(currently amended). A method as in claim 25 further comprising ~~the steps of~~:

(i) crystallizing said macromolecule in said sample in the

presence of said mesoporous glass; and

(ii) analyzing the crystal structure of the crystal produced in ~~step~~ (i).

41(currently amended). A method as in claim 26 further comprising ~~the steps of~~:

(i) crystallizing said macromolecule in said sample in the presence of a mesoporous glass; and

(ii) analyzing the crystal structure of the crystal produced in ~~step~~ (i).

42(currently amended). A method as in claim 25 including ~~the step of~~ adding said mesoporous glass to said crystallization sample using an automated dispensing system.

43(currently amended). A method as in claim 26 including ~~the step of~~ adding said mesoporous glass to said crystallization sample using an automated dispensing system.

44(previously presented). A method as in claim 42 wherein the mesoporous glass is added as a suspension in a liquid.

45(previously presented). A method as in claim 43 wherein the mesoporous glass is added as a suspension in a liquid.

46(previously presented). A method as in claim 25 wherein the macromolecule is a biological macromolecule.

47(previously presented). A method as in claim 26 wherein the macromolecule is a biological macromolecule.

48(previously presented). A crystal obtained by the method of claim 26.

49(previously presented). A site suitable for crystallizing a macromolecule selected from the group consisting of a chamber, a fibre, film and a mesh, wherein said chamber, fibre, film or mesh comprises a mesoporous glass as defined in claim 26.

50(currently amended). A site suitable for crystallizing a macromolecule as in claim ~~50~~ 49 wherein the mesoporous glass forms a coating on the chamber, fibre, film or mesh.

51(canceled).

52(new). A kit of parts comprising:

(a) a crystallization agent;

(b) a mesoporous glass nucleant of a composition selected from the group consisting of SiO_2, $CaO-P_2O_5-SiO_2$ and $Na_2O-CaO-P_2O_5-SiO_2$ or combinations thereof, wherein each of the Ca, P, Si or Na atoms within the compositions may be substituted with a suitable atom chosen from the group consisting of B, Al, Ti, Mg, and K; and wherein, optionally, the composition may also include elements having an atomic number over 20 to enhance X-ray diffraction contrast; and

(c) A site suitable for crystallizing a macromolecule selected from the group consisting of a chamber, a fibre, film and a mesh, wherein said chamber, fibre, film or mesh comprises said mesoporous glass.